
An Overview of International Research into the Library and Information Needs of Visually Impaired People

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ABSTRACT

The background to general user needs assessment, including its value in service design and development, and the range of applicable methodologies is discussed. The diverse nature of users is recognized and the inappropriateness of a “one size fits all” approach is emphasized, with particular reference to visually impaired people. The place of research in supporting an evidence-based approach to service design and development is noted. A contextual section identifies some of the drivers that underpin appropriate and adequate provision to visually impaired people. They include legislation, international conventions, and codes of practice. Key features of the research agenda are identified. Much of the recent research relating to user needs coalesces around the theme of information technology, particularly the Internet, and assistive technology; another component of the research agenda comprises investigation of the general needs of visually impaired people in achieving a fulfilling lifestyle that includes access to information and libraries. Selected examples of completed research work from different countries are described in terms of scope, methods, and outcomes. An assessment of the need for future research concludes the article.

INTRODUCTION

The modern library and information service features access to information in all its forms coupled with a range of services designed to support users, as well as space in which users may engage individually or collectively with information. Those users may draw on the library’s resources for a variety of purposes in their daily routine, including leisure, learning,

work, and living. An aspiration for the library and information service is that it is equally hospitable to users of all kinds and it knows no artificial boundaries in terms of information. The reality, of course, is that resource constraints impinge greatly on what a service can provide, and there is a constant assessment of priorities based on the affordable and perceptions of user need. However, those users are by no means uniform in their need for information, or in the way that they can or do access it. One test of a service's commitment to fulfilling its brief is the way it deals with visually impaired people, including discovering who they are, what they need, and how they can be best served.

It is fair to say that libraries in the modern world generally display a sensitivity to user needs that compares favorably with a range of comparable services in both the public and private sectors. The literature on users and user needs is abundant, and we have come a long way from the days when simply maintaining a building and stock were regarded as sufficient ends in themselves. Some of this situation has been brought about by the professionalism and commitment of librarians to bring together the community and information in imaginative ways. Another factor has been the increased emphasis by governments on demonstrating not only the efficiency of libraries but their impact on users as well. A third strand of the issue relates to the way in which legislation in many countries has placed social inclusion and equality of opportunity at the forefront of community action.

Determining what users need is, of course, a challenge not least because of the diverse nature of those users. Mechanisms exist to canvass opinion and identify activity regarding libraries. Examples include collating usage data from in-house library systems, reader exit surveys, and Web-based questionnaires, some of which may be quite extensive and sophisticated in their scope. In terms of population characteristics, however, the granularity of the evidence gathering rarely goes beyond differentiating between adults and children, or between students and teachers. Moreover, what of nonusers, or as Christie Koontz (2005)—a leading authority on library users and marketing at Florida State University—prefers, “potential users” within a community? Community profiling using geosocial data can assist planning and decision making at the general level, but it does not penetrate into establishing the expressed needs, wants, and attitudes of people.

These issues take on an even sharper focus when we consider visually impaired people and the strategies to include them in service development and delivery. The significant number of people in the community that have a visual impairment of one kind or another, and, indeed, the varying degrees of impairment within that group, exemplify why a “one size fits all” approach is of little value in discovering needs and is manifestly inappropriate in service design.

This article takes the theme further and explores some selected examples of recently reported activity regarding the determination of visually impaired users' needs through appropriate research. It has to be stated that the recent material published in this specific area is relatively scarce and that the treatment here is illustrative rather than exhaustive. Much has, however, been written on describing the predicament of service provision to visually impaired people and its resource base as well as on recommending good practice, but little of this material draws upon evidence from empirical research. This particular area of research is not alone in this respect; evidence-based practice in its full manifestation has yet to gain a secure foothold in library management, as was observed by the author recently (Davies, 2005).

WHAT OF RESEARCH?

Before examining research in any depth it is appropriate to consider its scope and relevance. Much has been expressed over the last few years regarding the nature of research in the field of library and information services. Only recently in the United Kingdom, the Chartered Institute of Library and Information Professionals (CILIP) adopted a policy and strategy for research that incorporated a definition.

According to the *Oxford English Dictionary*, research is defined as "A search or investigation directed to the discovery of some fact by careful consideration or study of a subject; a course of critical or scientific enquiry." Research in the context of this discussion may involve a range of methods and approaches. A great deal of valuable information can be derived from desk research on existing studies and statistics; in any event, such an approach is a necessary preliminary to any new empirical study if only to establish a baseline and identify realistic boundaries. Primary data may be acquired directly from users and potential users by a variety of means, including interviews, focus groups, and perhaps surveys, though the latter will have to be in a format that is accessible to respondents. Individual case studies offer a rich picture but are time consuming to assemble and document. Assessing in detail how users react to services and systems, particularly novel ones in prototype, offers another approach to creating a view of user needs. Employing this "What happens if . . ." technique can reveal latent and unexpressed need, but it can also raise expectations unduly if prototypes do not migrate into the operational realm.

Research and the findings of the research need to be put in perspective. It is what research tells us regarding the design and development of services that is important. Research does not in itself offer ready-made answers. Put simply, it allows the good designer to design better systems and the good manager to manage better. Thus, research results need to be interpreted intelligently and acted upon appropriately. A long time ago Donald Urquhart, himself no stranger to the conduct and application

of systematic research, very wisely asserted that "research is no substitute for thinking" (1967).

CONTEXT

The provision of appropriate and adequate services to visually impaired people is underpinned by several drivers, all of which to some extent are based on a philosophy of inclusion and adherence to best practice. Legislation in many countries creates a mandatory framework in which visually impaired people have to be accommodated. In the United Kingdom, for example, there is the Disability Discrimination Act (1995) and the Special Educational Needs and Disability Act (2001). Correspondingly, in the United States there is the Americans with Disabilities Act (1990).

Then there are the formal expressions of intent regarding provision for people with disabilities from such agencies as the United Nations, which has its Standard Rules on the Equalization of Opportunities for Persons with Disabilities (United Nations, 1993) and has in preparation a formal Convention to Promote and Protect the Rights and Dignity of Persons with Disabilities (United Nations, 2005).

Finally, there are the recommended codes of practice that specify practical methods of achieving suitable outcomes for visually impaired people. There are guidelines (Kavanagh & Christensen Sköld, 2005) and a checklist (Irvall & Skat Nielsen, 2005) from the International Federation of Library Associations. Examples in the United Kingdom include a manual of best practice sponsored by the Museums Libraries and Archives Council and available on the National Library for the Blind Web site (Hopkins, 2002), as well as a briefing document from the Chartered Institute of Library and Information Professionals (CILIP), the national organization for the profession (CILIP, 2005). In its earlier role as the Library Association, it was responsible for the creation of national guidelines (Machell, 1996).

All of these sources create an imperative for providers to know salient evidence about how and why visually impaired people use information and how it may best be provided. Some of the guidelines and codes also reveal insights into methodologies for discovering that evidence.

THE RESEARCH AGENDA ON VISUALLY IMPAIRED PEOPLE'S NEEDS

Much of the recent research relating to user needs coalesces around the theme of information technology (IT), particularly the Internet, and assistive technology. Information technology is sometimes heralded as the aid that holds the promise of solving almost all information access problems for visually impaired people; its supporters argue that it only awaits the appropriate hardware and software. On the other hand, there are important issues regarding the usability and availability of the technology that remain to be addressed; key issues include the skill base available

to take advantage of specialized technology as well as its affordability for a significant portion of society. A great deal has still to be learned about varying user preferences and aptitudes as well as the social dimensions of computer access and use. Several experimental services and IT configurations have featured an assessment of users' experiences and needs as part of their evidence gathering. Other studies have been designed specifically to acquire such information.

Another component of the research agenda comprises investigation of the general needs of visually impaired people in achieving a fulfilling lifestyle, including access to information and libraries. They therefore embrace general overviews of users' needs and practices regarding information gathering and use. Some are more targeted on specific information and library issues.

INFORMATION TECHNOLOGY AND USERS

The NOVA project (Craven & Brophy, 2003) represents an example of a study featuring practical trials to discover information about how visually impaired people approach and use technology. The study explored the searching performance and behavior of twenty visually impaired people, and it also involved a comparison group of twenty sighted persons. The basis of the experiments was that sighted persons generally search complex Web pages, incorporating frames and links in a nonlinear manner, while visually impaired people have to search in a linear manner using one page at a time and backtracking through pages to navigate successfully. During the experiments activity was logged by recording key strokes and mouse clicks together with participants' verbal description of the search. In this way, it was possible to establish not only what was being done but also why and how people felt about it. In addition, semistructured interviews were also conducted to discover attitudes toward the technology based on the searching experience. The results indicated that visually impaired people spent more time navigating through searches. Moreover, not everyone had access to the latest assistive technologies. Important messages emerged for information designers and providers.

A Canadian initiative, the Information Now project, focused on extensive testing of the DAISY format. The three-year project explored the extent to which visually impaired people with varying levels of skills were able to access and read DAISY formatted documents. The Canadian National Institute for the Blind established a Community Learning Network to support visually impaired participants at six sites distributed throughout Canada. In all, fifty-six people with varying degrees of technical skill took part in the study, which involved using the format after training. Information on user performance as well as preferences and needs was gathered during the project. The results contributed greatly to informing the selection and production of accessible materials for visually impaired people.

A report of the study, including user responses, was published (Canadian National Institute for the Blind, 2005a), and this was followed by a guide to best practices for DAISY book production based on the outcomes of the trials (Canadian National Institute for the Blind, 2005b).

The Accelerate Project, funded under the European Union Leonardo da Vinci Programme, involved a consortium of library services and support agencies for visually impaired people from several countries. It featured an experiment to assess the impact of providing visually impaired people with equal access to digital information through information technology and adaptive equipment in academic libraries in Thessaloniki and Nicosia. The institutions and agencies involved included the University of Macedonia Library, the Cyprus University Library and the Cyprus Library, together with the University of Graz Library, the University of Linz Institute of Computer Science, the Federation of Dutch Libraries for the Blind, the Parahellenic Association of Blind of Central Macedonia, the Union of Blind of Northern Greece, and Voluntary Work of Thessaloniki. The project was coordinated by Polyplano Euroconsultants in Greece. In addition to providing appropriate technology, the project embodied a high level of support and training for the librarians in the two libraries as well as the visually impaired people involved. An evaluation phase featured extensive study of user needs and perceptions through a series of interview-based surveys, one before and two after the installation of equipment. The design of the survey instruments drew on earlier experience with the TESTLAB project. Though the number of respondents was not particularly high, the surveys did yield useful information to inform the development of mechanisms to support visually impaired people in using libraries. All three stages of the evaluation were fully documented (Oosting, 2000, 2001a, 2001b).

Though it represents activity before 2000, which is the notional cut-off date for examples in this article, the multinational TESTLAB Project, which ran from 1996 to 1998 with partners from Ireland, the UK, the Netherlands, Austria, Italy, and Greece, is worthy of inclusion. To a large extent it laid the foundation for developments in facilitating digital information access for visually impaired people and for testing their impact. Funded by the European Union under its Telematics for Libraries Programme, it featured a series of practical trials employing adapted workstations located in selected public and academic libraries; visually impaired people could gain access to catalogs, networks, databases, and electronic documents with these computers. Trials took place in Austria, Italy, Ireland, and the United Kingdom. The project not only tested technological configurations and solutions but also gathered information on user performance and perceptions systematically. The Netherlands partner undertook sample surveys of users, and further user input was acquired through an Expert User Group. A range of reports emerged from the

project, which are accessible at <http://projects.fnb.nl/download/default.htm#Testlab>. A preliminary stage account of the project was provided in a journal article by Tucker (1997).

GENERAL OVERVIEWS AND USERS

The Canadian National Institute for the Blind undertook a comprehensive investigation into the needs of visually impaired people in a two year study entitled *The Needs of People in Canada Who Are Blind or Visually Impaired and Implications for Policy and Programs*. The study used focus groups, interviews, and surveys in order to gather information on the challenges associated with living with vision impairment and the adequacy of the support provided by social and rehabilitation agencies. It involved some 500 people, including visually impaired adults, parents of visually impaired children, ophthalmologists and optometrists, rehabilitation agency service providers, and teachers of students with visual impairments. The outcomes of the study were shared with key stakeholders who were able to influence policy and the delivery of support. The study explored a range of issues, including income levels, employment, education, and social integration of visually impaired people, as well as the services provided and required to fulfill unmet needs. Access to information including libraries, the Internet, and e-mail was also covered. A significant outcome was a recommendation to "integrate an accessible library service into the standard library system." A full report of the investigation (Canadian National Institute for the Blind National Research Unit, 2005) is available, and an executive summary appears on the Web at <http://www.cnib.ca/eng/research/publications/unequal-field.htm>.

A study of information seeking by visually impaired people was the subject of a research project by Information and Telecommunication Needs Research (ITNR), a consortium based in two Australian Universities (Williamson, Schauder, & Bow, 2000). It cast some valuable light on why information is needed as well as how it is accessed. The role of the Internet was also explored. The specific research questions addressed were what are the information needs of sight-impaired people; in what ways are those needs being met; what is the role of the Internet in meeting information needs; and what are the barriers to the use of the Internet? The authors described the work as an ecological study because it focused very much on the information needs in people's everyday lives. Evidence was gathered through a combination of focus groups and interviews that included both urban and rural participants. This was then supplemented by three very informative case studies. The predominant information needs identified were those covering health and finance matters. A particular concern that emerged related to the cost to individuals of both acquiring IT equipment and keeping hardware and software up to date.

Another example of asking visually impaired people directly what they

need and do is a survey undertaken by the Library and Information Statistics Unit (LISU) at Loughborough University in the UK with support from Share the Vision (Davies, Wisdom, & Creaser, 2001). Over 580 visually impaired people were surveyed through structured interviews. The methodology also featured a seminar to share preliminary results with agencies concerned with visually impaired people and to acquire additional information regarding service provision and demand. The project claimed to break new ground in the UK as there had never before been a national study on such a scale that examined library services and related information providers for visually impaired people from the users' perspective. Volunteers to participate in the survey were enlisted through publicity directed at support agencies, newsletters, and Internet newsgroups. Evidence was gathered on visually impaired people's preferred formats for accessing information and on their use of information technology. Detailed information was also gathered on visually impaired people's experiences with public libraries as well as other specialized agencies such as the National Library for the Blind (NLB), the Royal National Institute of the Blind (RNIB) Talking Books service, the Calibre Cassette Library, and the Talking Newspaper Association of the UK (TNAUK). The results indicated that, in general, services received very positive responses from current users in terms of overall client satisfaction. Areas where scope for improvement was identified included publicizing and promoting services to potential users, retaining users, and regaining lapsed users together with user consultation and communication.

This article has sought to confine itself with one or two exceptions to work examples or work reported since 2000. Project LIBRA, undertaken by Peter Craddock, justifies its inclusion because it represents a significant study of provision and use in the UK, and it includes an extensive series of case studies drawn from interviews with visually impaired people as part of its methodology (Craddock, 1996). This was not the first study undertaken by Craddock; it built on earlier work. The study included a survey of library provision and a survey of equipment vendors, as well as the selection of case studies noted above. A considerable amount of evidence was assembled regarding the variety of provision then available in public libraries as well as the activities of a range of visually impaired users.

RESEARCH AND VISUALLY IMPAIRED PEOPLE'S NEEDS: WHAT NEXT?

It is a truism that researchers always claim that "more research is needed." By definition they are seekers after the knowledge and enlightenment that reliable evidence holds out the promise of providing. In the case of understanding visually impaired people as information users, it may be argued that the quest for more and better information is justified. New technology, the rediscovery of social imperatives for inclusion and

equity, the greater emphasis on information as a driver for cultural and material progress, and an aging population with more visually impaired people all point to the need for research. That research, in many cases, has to be more rigorous with larger and more representative sample sizes and sharper, replicable methodologies, although this is not to discount useful small-scale local investigations completely. Also needed is better dissemination of the studies that do exist—especially those undertaken at a local level—so that more library policy makers and managers can draw on the information.

More has to be discovered about people's preferences for service delivery and information content and their perceptions and experiences of what is offered. Why do some visually impaired people give up using libraries? Why do some never start? Do those that use libraries get what they want, at least most of the time? Significant improvements in service can sometimes be achieved with small changes in delivery. The application of techniques that compare what visually impaired users expect with the reality that they perceive through gap analysis, in the way that Libqual does, are worth exploring. For inspiration the Web site is worth consulting: <http://www.libqual.org/>.

Moreover, the opportunity exists to explore in greater depth not only what users need and do but also how libraries and information change their lives. Case studies present an avenue for discovery, and soft social indicators offer another tool to pursue these goals (Welsh European Funding Office, 2003). In the UK there are the beginnings of a portfolio of mechanisms that address impact assessment for public libraries, though they are far from perfect. They are centered around shared public service ideals and priorities, including raising standards across schools; improving the quality of life for children, young people, families at risk, and older people; promoting healthier communities; and creating safer and stronger communities. Further information is available through the UK Department for Culture, Media, and Sport Web site. http://www.culture.gov.uk/libraries_and_communities/. In the UK the supermarket chain Tesco has maintained its market lead by knowing more about its diverse customer base than anyone else; it is perhaps time for libraries to follow suit.

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